Maryland Transportation Authority

Martin O'Malley
Governor

Anthony Brown
Lt. Governor

Beverley K. Swaim-Staley
Chairman

Peter J. Basso
Rev. Dr. William C. Calhoun, Sr.
Mary Beyer Halsey
Louise P. Hoblitzell
Richard C. Mike Lewin
Isaac H. Marks, Sr., Esq.
Michael J. Whitson
Walter E. Woodford, Jr., P.E.

Ronald L. Freeland
Executive Secretary

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December 1, 2009

TO ALL PURCHASER'S OF CONTRACT DOCUMENTS

ADDENDUM NO. 3

RE: Contract No. MA 2081-000-006
Renovation to Navigational Aids at Various Facilities

To Whom It May Concern:

It is important that you acknowledge receipt of this Addendum No. 3 on the referenced contract regardless if you will be bidding or not bidding.

Very truly yours,

Linda D. McGill, CPPB
Chief Procurement Officer

LM/dmd

Enclosures

Contract No. **MA 2081-000-006**

This will acknowledge receipt of the attached Addendum No.3.

_____
NAME OF COMPANY

_____ _____
SIGNATURE DATE

THIS SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE SHALL BE RETURNED TO THIS OFFICE VIA **FAX AT 410-537-7801**, ATTENTION: MAGGIE JOHNSON PRIOR TO THE BID OPENING DATE.

IN ADDITION, THIS SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE MUST BE ATTACHED TO THE OUTSIDE COVER OF THE BID BOOK. FAILURE TO DO SO MAY RESULT IN REJECTION OF YOUR BID.

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December 1, 2009

TO ALL PURCHASER'S OF CONTRACT DOCUMENTS

ADDENDUM NO. 3

RE: Contract No. MA 2081-000-006
Renovation to Navigational Aids at Various Facilities

To Whom It May Concern:

A. The Bid Due Date for the above referenced contract is **December 8, 2009** at 12:00 Noon.

B. The following changes have been made to the Invitation for Bids book:

1. Insert page 005a dated **November 20, 2009 - Addendum 3** after page 005.

2. Delete pages 052-057, 068-074, 107, 108, 148 and 152 and replace with pages numbered the same dated **November 20, 2009 - Addendum 3**.

C. The following changes have been made to the Contract Plan Sheets:

1. Delete sheets numbers 1, 6, 13, and 14 and replace with sheets numbered the same dated **November 20, 2009 - Addendum 3**.

D. Attached are responses to questions submitted for this contract.

Very truly yours,

Linda D. McGill, CPPB
Chief Procurement Officer

LM/dmd

THIS ADDENDUM SIGNED ACKNOWLEDGEMENT PAGE MUST BE ATTACHED TO THE OUTSIDE COVER OF THE BID BOOK. FAILURE TO DO SO MAY RESULT IN REJECTION OF YOUR BID.

Responses to Submitted Questions

Question 1. Specification for Solar Navigation Lights has solar arrays 180 degrees to each other. These are designed for placement on buoys that have no fixed solar orientation. The manufacturer offers an identical model with a single solar array for applications such as this project with a fixed orientation. Can the single array unit be used?

Response. The intention of the 2 solar modules is to maximize solar radiation collection. Orientation of modules shall be determined in field.

Question 2. Bid item 806 calls out for 4 inches PVC schedule 80 bored. The plans call out concrete under roadway. Which is it?

Response. Delete drawing E-2.03 and replace with sheets numbered the same dated November 20, 2009 Addendum No. 3.

Question 3. The details on E3.02 calls out for 2 inches strain reliefs at each junction box. What is the purpose of these oversized and extremely expansive entrances given they are far larger than the cables being installed and will offer no strain relief as the wire will freely slide through the opening?

Response. Delete drawing E-3.02 and replace with sheets numbered the same dated November 20, 2009 Addendum No. 3.

Question 4. How are we to provide a responsible estimate for the Repair of the Fog Horn on LMB; given we have no specification for the equipment existing, no allusion to the problems experienced and no scope will be defined until after the award of the contract?

Response. In Invitation for Bids book delete 850 section pages 068 to 074 and replace with pages numbered the same dated November 20, 2009 Addendum No. 3. Also, in Invitation for Bids book delete 150 section pages 052 to 057 and replace with pages numbered the same dated November 20, 2009 Addendum No. 3.

Question 5. Bid item 823 calls for 36" x 12" x 6" NEMA JUNCTION BOX. Plan sheet E3.02 calls out for 36" x 24" x 6" NEMA 3R SS. Which of these are we to price in our bid?

Response. In Invitation for Bids book delete pages 107, and 148 and replace with pages numbered the same dated November 20, 2009 Addendum No. 3.

Question 6. Invitation of Bid page 146 Schedule of Prices, Item 810 /2C #2AWG Messenger supported cable. Where in the contract is line Item 810 used?

Response. 2/C #2AWG Messenger Supported Cable for the Fog Signal feeder is mounted next to messenger cable for the navigation light feeder. Aerial cable is shown on E-2.01, and the type of cables are defined in diagrams shown on drawings E-2.02 and E-2.03.

Question 7. Plan sheet E3.02, Electrical details Section A-A. Please provide more details for Aerial cable entrances in to job box? Is there a drop loop required? What keeps the elements from following the wire into job box? What is required to keep cable from chaffing against Bridge structure? Job box does not appear to be mounted inline with aerial cable, is this a problem? Is it acceptable to use weather head instead of strain relief units?

Response. Delete drawing E-3.02 and replace with sheets numbered the same dated November 20, 2009 Addendum No. 3.

Question 8. Invitation of Bid page 73 Paragraph 850.03.06 Testing, Item 3 requires a factory representative to review an approve Fog Horn installations. Is this also required of the LMB Fog Horn repair? If so who is the manufacturer and contact information for the units?

Response. In Invitation for Bids book delete 850 section pages 068 to 074 and replace with pages numbered the same dated November 20, 2009 Addendum No. 3.

Dual Certification Procurement Information

Effective on October 1, 2009, Minority Business Enterprise (MBE) firms may elect to be dually certified as woman-owned businesses and as members of an ethnic or racial category. For purposes of achieving any gender or ethnic/racial MBE participation subgoals in a particular contract, an MBE firm that has dual certification may participate in the contract either as a woman-owned business or as a business owned by a member of a racial or ethnic minority group, **but not both**.

WARNING – PLEASE READ:

- **A firm must be listed in the MDOT MBE/DBE Directory with the gender category in order to be used to meet the gender subgoal.**
- **A firm must be listed in the MDOT MBE/DBE Directory with an ethnic/racial category in order to be used to meet the ethnic/racial subgoal.**
- **A firm must be listed in the MDOT MBE/DBE Directory with both the gender and ethnic/racial categories in order for a contractor to have the option of selecting which of those categories it will use for the firm on a State contract.**
- **Contractors should designate whether the MBE firm will be used as a woman-owned business or as a business owned by a member of a racial/ethnic group before calculating the percentage of MBE participation goals and subgoals they intend to meet.**

Maryland's MBE/DBE Directory will reflect the dual certification status beginning October 1, 2009. You can access the MBE/DBE Directory at http://mbe.mdot.state.md.us. Firms with dual certification will now be listed as follows:

Example:

ABC Corporation, Inc.
123 Corporate Circle
Hanover, MD 21076
Female/African American
00-000

CATEGORY 100
PRELIMINARY

SPECIAL PROVISION 150 – SELECTIVE DEMOLITION

150.01 DESCRIPTION. This project is located on the Governor Harry W. Nice Memorial Bridge (NMB) in Charles County, Francis Scott Key Bridge (FSK) in Baltimore County, and on the William Preston Lane Jr. Memorial Bridge (LMB) in Anne Arundel and Queen Anne's Counties and Baltimore City.

150.01.01 The work for the NMB is along the entire length of the bridge both under and above the roadway. This work consists of demolishing equipment mounted to the bridge structure including navigation lights, the aerial beacon, electrical distribution equipment. This work includes demolishing interconnection cables, connections, and splices to existing cables, conduits, and other appurtenances. All work and materials necessary to protect existing structures and make electrically safe shall be included.

150.01.02 The work for the FSK is on the bridge pier structures and on top of the bridge structure at each end and the center. This work consists of demolishing the fog signal emitters, drivers, power supplies, and navigation lights on the pier structures and demolishing the aerial beacons, on top of the bridge structure. This work includes demolishing interconnection cables, conduits, connections, and splices to existing cables, conduits, and other appurtenances. Demolish all conduit and wire mounted to bridge below the roadway and demolish conduit and cable above the roadway as needed. All work and materials necessary to protect existing structures and make electrically safe shall be included.

150.01.03 The work for the LMB on the east span of the **south** structure is above the roadway. This work consists of demolishing the existing fog signal emitters, drivers and power supplies. This work includes the removal of interconnection cables, conduits, connections, and splices to existing cables. All work and materials necessary to protect existing structures and make electrically safe shall be included.

150.01.04 The work for the LMB on the east span of the **north** structure is below the roadway. This work consists of demolishing the existing fog signal emitter to be replaced with a new fog signal emitter. All work and materials necessary to protect existing structures and make electrically safe shall be included.

150.01.05 WORK RESTRICTIONS

150.01.05.01 The contractor may not work in poor weather conditions. Poor weather conditions shall include rain, snow, sleet, ice, fog or any other form of precipitation. Poor weather will include wind above 25mph or gusts above 35mph.

150.01.05.02 Contractors, when on bridges, shall at all times keep a means of contact with MdTA communication. Cellular phone or radio shall be acceptable.

150.01.05.03 See Section 104 for MOT restrictions.

150.01.06 GENERAL This work includes contacting, coordinating and cooperating with MdTA for traffic control on the bridge. Plans are diagrammatic locations of cables, conduits, and other utilities. They are approximate and do not show every detail. Provide working drawings, shop drawings, and catalog cuts, etc., which show final details of the installation.

150.01.07 CODES AND STANDARDS All work shall be performed in accordance with the codes and standards listed below. Materials and construction shall meet the minimum requirements and recommendations of the codes, standards, and organizations listed in paragraph 820.01.01 of Specification Section 820 – General Electrical Work and Testing. Unless otherwise stated, the latest edition, revision, or supplement, as of the date of advertisement, of the specified codes shall be used.

150.01.07.01 The entire demolition will be inspected by the MdTA Chief Electrical Inspector or his appointed representative. Contact the Electrical Inspector at least 48 hours before needed inspections. All demolition shall be inspected at completion.

150.01.07.02 Special attention is directed to the fact that the Standard Specifications For Construction and Materials dated July 2008 and published by the Maryland Department of Transportation, State

Highway Administration also governs this work, and is referenced frequently herein as the "Specifications".

150.01.08 QUALITY CONTROL AND QUALITY ASSURANCE The contractor must provide qualified labor to perform demolition. Where licenses or certifications are available or required by local jurisdictions, state jurisdictions, or federal jurisdictions for certain skilled trades, such as electrical, mechanical, plumbing, welding, etc., the skilled trade workers shall have current versions of the appropriate license or certification prior to working the associated specialty.

150.01.08.01 Electrical work shall be supervised by an electrician whom is licensed in the state of Maryland. Anytime, electrical work is performed the contractor shall provide a full time electrician for on site supervision.

150.01.08.02 The contractor shall inspect all existing structures and materials furnished or installed in the vicinity items being demolished and shall bring any damage, failure, or other problem to the attention of the project inspector prior to incorporation into the work.

150.02 MATERIALS Not applicable.

150.03 CONSTRUCTION

150.03.01 Examination

150.03.01.01 Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

150.03.01.02 When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Engineer.

150.03.01.03 Perform surveys as the work progresses to detect hazards resulting from selective demolition activities.

150.03.02 Equipment

150.03.02.01 The Contractor shall submit a list of equipment proposed for demolition. Approval of this equipment does not relieve the Contractor of the responsibility to complete the work as specified or as shown on the Contract Drawings.

150.03.02.02 The Engineer reserves the right to direct the Contractor to use a different type of equipment if the equipment suggested by the Contractor is likely to cause damage to the structure. The equipment shall be provided at no extra cost to the Authority.

150.03.02.03 Any damage caused by the Contractor, because of his equipment or procedure, shall be repaired by the Contractor to the satisfaction of the Engineer at no cost to the Authority.

150.03.03 Utility Services Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by the Engineer. Provide temporary services during interruptions to existing utilities, as acceptable to the Engineer. Provide not less than 72 hours notice to the Engineer if shutdown of service is required during changeover.

150.03.04 Preparation

150.03.04.01 Conduct demolition operations and remove debris to ensure minimum interference with adjacent occupied and used facilities.

150.03.04.02 Conduct demolition operations to prevent injury to people and damage to adjacent construction to remain. Ensure safe passage of people around selective demolition area. Erect temporary protection, such as walks, fences where required by the Engineer.

150.03.05 Pollution Controls

150.03.05.01 Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations. Do not use water when it

may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

150.03.05.02 Remove and transport debris daily in a manner that will prevent spillage on adjacent surfaces and areas.

150.03.05.03 Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

150.03.05.04 Perform all demolition in accordance with Maryland Department of Environment requirements for construction over bodies of water.

150.03.06 Selective Demolition Demolish and remove existing construction in entirety to the limits indicated. Use methods required to complete work within limitations of governing regulations and as follows:

150.03.06.01 Proceed with selective demolition systematically.

150.03.06.02 Maintain adequate ventilation when using cutting torches.

150.03.06.03 Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

150.03.06.04 Remove structural framing members and lower to ground by method suitable to avoid free-fall and to prevent ground impact or dust generation.

150.03.06.05 Locate selective demolition equipment throughout the structure and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

150.03.06.06 Dispose of demolished items and materials promptly.

150.03.06.07 Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

150.03.07 Disposal of Demolished Material

150.03.07.01 General: Dispose of demolished materials daily. Do not allow demolished materials to accumulate on-site.

150.03.07.02 Burning: Do not burn demolished materials.

150.03.07.03 Disposal: Transport demolished materials off Authority property and legally dispose of such materials.

150.04 MEASUREMENT AND PAYMENT

Removal and Disposal of Existing Equipment will not be measured but will be paid for at the Contract lump sum price. All equipment not designated for removal and disposal in the Contract Documents will not be measured but the cost will be incidental to Section 150. The Authority reserves the right to eliminate from this item any or all equipment. For each piece of equipment eliminated from this item, the item will be credited to the extent of the cost eliminated, which will be determined from the breakdown submitted by the Contractor showing the tabulation of individual unit costs used in arriving at the Contract price for this item. A breakdown of the Contract lump sum price for Removal and Disposal of Existing Equipment shall be submitted to the Engineer prior to beginning work.

ITEM NUMBER	DESCRIPTION OF ITEM	UNIT
105	SELECTIVE DEMOLITION	LUMP SUM

CATEGORY 800
TRAFFIC

SECTION 850 – FOG HORNS

850.01 DESCRIPTION. This project is located on the Francis Scott Key Bridge (FSK) in Baltimore County and Baltimore City, on the William Preston Lane Jr. Memorial Bridge (LMB) in Anne Arundel and Queen Anne's Counties, and Governor Harry W. Nice Bridge (NMB) in Charles County.

850.01.01 The work for the FSK is on both sides of the shipping channel on bridge pier structures. This work consists of replacing the fog signal emitters, drivers, and power supplies with equal or better. This work includes interconnection cables, connections, and splices to existing cables, conduits, and installation of other appurtenances. Replace all conduit and cable mounted to the bridge structure that is located below the roadway, and replace conduit and cable above the roadway as needed. All work and materials necessary to provide complete and functioning systems shall be included.

850.01.02 The work for the LMB on the east span of the **north** structure is beneath the roadway. This work consists of replacing the existing fog signal emitters, drivers and power supply with equal or better. All work and materials necessary to provide complete and functioning systems shall be included.

850.01.03 The work for the LMB on the east span of the **south** structure is above the roadway. This work consists of demolishing the existing fog signal emitters, drivers and power supplies. This work includes the removal of interconnection cables, connections, and splices to existing cables. Salvaged parts shall be made available to the Authority. The point of contact is Orlando Angeli at 410-537-6663. All work and materials necessary to disconnect and make safe shall be included.

850.01.04 The work for the NMB is to strictly replace the existing power feeders. All of existing fog horn equipment mounted to bridge shall remain. This work includes interconnection cables, connections, and splices to existing cables, conduits, and installation of other appurtenances. Replace all conduit and cable mounted to the bridge structure. All work and materials necessary to provide complete and functioning systems shall be included.

850.01.04 WORK RESTRICTIONS

850.01.04.01 The contractor may not work in poor weather conditions. Poor weather conditions shall include rain, snow, sleet, ice, fog or any other form of precipitation. Poor weather will include wind above 25mph or gusts above 35mph.

850.01.04.02 Contractors, when on bridges, shall at all times keep a means of contact with MdTA communication. Cellular phone or radio shall be acceptable.

850.01.05 GENERAL This work includes contacting, coordinating and cooperating with MdTA for traffic control on the bridge. Plans are diagrammatic locations of cables, conduits, and other utilities. They are approximate and do not show every detail. Provide working drawings, shop drawings, and catalog cuts, etc., which show final details of the installation.

850.01.06 CODES AND STANDARDS All work shall be performed in accordance with the codes and standards listed below. Materials shall meet the minimum requirements and recommendations of the codes, standards, and organizations listed below. Construction methods shall also meet the minimum requirements and recommendations of the codes, standards, and organizations listed below. Unless otherwise stated, the latest edition, revision, or supplement, as of the date of advertisement, of the specified codes shall be used.

850.01.06.01 United States Coast Guard 33 CFR PART 67 - Aids to Navigation on Artificial Islands and Fixed Structures.

ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
IEEE	Institute of Electrical and Electronic Engineers
NEC	National Electrical Code (NFPA70)
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
UL	Underwriters' Laboratories
TIA	Telecommunications Industry Association

850.01.06.02 All materials supplied by the contractor shall be new and UL listed where such listing is possible.

850.01.06.03 The entire installation will be inspected by the MdTA Chief Electrical Inspector or

his appointed representative. Contact the Electrical Inspector at least 48 hours before needed inspections. All equipment shall be inspected at rough in.

850.01.06.04 Special attention is directed to the fact that the Standard Specifications For Construction and Materials dated July 2008 and published by the Maryland Department of Transportation, State Highway Administration also governs this work, and is referenced frequently herein as the "Specifications".

850.01.06.05 Unless clearly specified otherwise, all voltages indicated are AC (alternating current), shall be at 60 Hz, and stated as RMS values.

850.01.07 QUALITY CONTROL AND QUALITY ASSURANCE The contractor must provide qualified labor to perform installation. Where licenses or certifications are available or required by local jurisdictions, state jurisdictions, or federal jurisdictions for certain skilled trades, such as electrical, mechanical, plumbing, welding, etc., the skilled trade workers shall have current versions of the appropriate license or certification prior to working the associated specialty.

850.01.07.01 Electrical work shall be supervised by an electrician whom is licensed in the state of Maryland. Anytime, electrical work is performed the contractor shall provide a full time electrician for on site supervision.

850.01.07.02 The contractor shall inspect all materials furnished or installed under this contract and shall bring any damage, failure, or other problem to the attention of the project inspector prior to incorporation into the work.

850.02 MATERIALS

850.02.01 Fog Signal Emitters, Drivers and Power Supplies

850.02.01.01 The fog horns on the FSK shall be the FA-232/2 sound Signal System by Automatic Power consisting of two 390 Hz emitters arranged in a vertical array mounting bracket as recommended and supplied by the fog horn manufacturer or approved equal. The power supply and transformer for both horns shall be housed in the same NEMA 4X enclosure provided by the fog horn manufacturer. The transformer shall allow the equipment to accept 480 volt power.

850.02.01.02 The fog horn replacement on the LMB shall be the FA-232 by Automatic Power consisting of a single 390 Hz emitter, driver, and power supply in an integral unit or approved

equal. The replacement fog horn shall be fed by an existing 240 volt circuit.

850.02.01.03 The proposed emitters, drivers, and power supplies shall be United States Coast Guard approved, and comply with the recommendations of the International Association of Lighthouse. In the event the proposed items are not previously tested to the satisfaction of United States Coast Guard, and National Lighthouse Authority, the manufacturer will be required to submit proof that the items meet the specified power input, power output, frequency and sound pressure level.

850.02.01.04 The emitter shall produce the sound pressure level required by United States Coast Guard 33 CFR PART 67 - Aids to Navigation on Artificial Islands and Fixed Structures for range of 2-miles.

850.02.01.05 The emitters shall be constructed of materials suitable for the marine environment.

850.02.01.06 The emitter's coil shall be fixed in the center section, and not oscillate flexing the coil wires. The diaphragms shall seal the coils from the atmosphere.

850.02.01.07 The emitter, drivers, and power supplies shall be listed by Underwriters Laboratories, Inc. as suitable for use in Class I, Division 2, Group D Hazardous Locations as described by the National Electrical Code.

850.02.01.08 Grounding shall be in accordance with section 804 of the Specifications.

850.02.02 Remote Fog Signal Contactor and Controller

850.02.02.01 Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a) Allen-Bradley/Rockwell Automation.
b) ASCO Power Technologies, LP; a division of Emerson Electric Co.
c) Eaton Electrical Inc.; Cutler-Hammer Products.
d) GE Industrial Systems; Total Lighting Control.
e) Grasslin Controls Corporation; a GE Industrial Systems Company.
f) Hubbell Lighting.
g) Lithonia Lighting; Acuity Lighting Group, Inc.
h) MicroLite Lighting Control Systems.
i) Square D; Schneider Electric.

j) TORK.
k) Touch-Plate, Inc.
l) Watt Stopper (The).
m) MdTA approved equivalent.

850.02.02.02 Description: Electrically operated and electrically held, combination type with Hand-Off-Auto switch, complying with NEMA ICS 2 and UL 508.

a) Current Rating for Switching: Listing or rating consistent with type of load served, including tungsten filament, inductive, and high-inrush ballast (ballast with 15 percent or less total harmonic distortion of normal load current).
b) Fault Current Withstand Rating: Equal to or exceeding the available fault current at the point of installation.
c) Enclosure: Comply with NEMA 12.
d) Provide with control and pilot devices as indicated on Drawings, matching the NEMA type specified for the enclosure.

850.03 CONSTRUCTION

855.03.01 Examination Examine areas, equipment foundations, and conditions, with Installer present, for compliance with requirements for installation and other conditions affecting fog horn performance. Proceed with installation only after unsatisfactory conditions have been corrected.

855.03.02 Installation Comply with the fog horn manufacturers' written installation and alignment instructions.

855.03.03 Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted. Verify that electrical wiring is installed according to manufacturers' submittal and installation requirements in Section 810. Proceed with equipment startup only after wiring installation is satisfactory.

855.03.04 Ground equipment - tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

855.03.05 Mounting Hardware – mounting hardware shall be stainless steel.

.850.03.06 Fog Horn Replacement on LMB The Contractor shall replace the existing fog horn

and mount the new fog horn in the same location and connect it to the existing 240 volt feeder circuit, and provide and wiring and conduit terminations required to connect the fog horn to the existing circuit and ground.

850.03.07 Testing The following tests shall be completed after installation of fog signal system.

1. Primary supply voltages, currents, and power factors of fog signal at standby condition and on.
2. Test the sound levels, and verify that fog signal complies with United States Coast Guard 33 CFR PART 67. These tests shall be measured in dB both 1 meter north and south of fog signal's emitters. These sound level tests shall be conducted with calibrated sound level meter that meets IEC651 and ANSI S1.4 specifications for a type 2 sound meter. The meter shall be calibrated, in compliance with OSHA, using Acoustical Calibrator.
3. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including piping and electrical connections, and to assist in testing. Report results in writing.
4. At William Preston Lane Jr. Memorial Bridge (LMB), test using existing traffic control computer system. Verify that relay in traffic cabinet is activated upon command. Verify that fog signal functions when the relay activated.

850.04 MEASUREMENT AND PAYMENT

All pay items shall include all materials, labor, and equipment necessary to furnish and install a complete, operational, and acceptable system as specified herein and as shown on the plans. Payment of items shall include all testing and guarantee required by the specifications and special provisions. Any requirements of the specifications, special provisions or plans not specifically detailed or mentioned in a payment item shall be considered incidental to the pay item below.

The contractor's quality assurance and quality control responsibilities shall be incidental to the pay items below. Construction stake out and coordination shall be incidental to the items listed below. Testing as specified in the Special Provisions and Specifications shall be incidental to the pay items listed below.

850.04.01 Fog Signal Emitters, Drivers and Power Supplies

Each Fog Signal Emitter, incidental Drivers, support racks, conduit, wiring and Power Supplies and all work associated with installing, testing, and inspecting, shall be paid per unit item.

SPECIAL PROVISIONS

Contract No. MA-2081-000-006

ITEM	DESCRIPTION OF ITEM	UNIT
836	FOG HORN SYSTEM	EACH
845	CONTACTOR AND CONTROLLER	EACH
846	REPLACE FOG HORN ON LMB	EACH

808	2" PVC COATED RGS ELBOW	EACH
809	4" PVC COATED RGS ELBOW	EACH
810	2/C #2 AWG MESSENGER SUPPORTED CABLE	LINEAR FEET
811	4/C #2 AWG MESSENGER SUPPORTED CABLE	LINEAR FEET
812	500 KCMIL XHHW COPPER CONDUCTOR	LINEAR FEET
813	#2 AWG XHHW COPPER CONDUCTOR	LINEAR FEET
814	#6 AWG XHHW COPPER CONDUCTOR	LINEAR FEET
815	#8 AWG XHHW COPPER CONDUCTOR	LINEAR FEET
816	#10 AWG XHHW COPPER CONDUCTOR	LINEAR FEET
817	#12 AWG THWN COPPER CONDUCTOR	LINEAR FEET
818	#6 AWG GROUND CONDUCTOR	LINEAR FEET
819	#6 AWG BARE GROUND CONDUCTOR	LINEAR FEET
820	#8 AWG GROUND CONDUCTOR	LINEAR FEET
821	#10 AWG GROUND CONDUCTOR	LINEAR FEET
822	#12 AWG GROUND CONDUCTOR	LINEAR FEET
823	36"X12"X6" NEMA 4X SS JUNCTION BOX	EACH
824	12"X12"X6" NEMA 1 JUNCTION BOX	EACH
825	TYPE I CONNECTOR	EACH
826	TYPE II CONNECTOR	EACH
827	TYPE III CONNECTOR	EACH
828	TYPE IV CONNECTOR	EACH
829	20A TRIP, SINGLE-POLE, 600 V CIRCUIT BREAKER	EACH
830	60A TRIP, 2-POLE, 208 V CIRCUIT BREAKER	EACH
831	20A NON-FUSED DISCONNECT SWITCH	EACH

832	RED LED NAVIGATION LIGHT	EACH
833	WHITE LED NAVIGATION LIGHT	EACH
834	GREEN LED NAVIGATION LIGHT	EACH
835	RED SOLAR LED NAVIGATION LIGHT	EACH
836	FOG HORN SYSTEM	EACH
837	LED FLASHING AERIAL BEACON	EACH
838	PIER MOUNTED EQUIPMENT PLATFORM	EACH
839	150KW PACKAGED GENERATOR	EACH
840	GENERATOR CONCRETE FOUNDATION	CUBIC YARDS
841	10KVA, 208 V - 600 V SINGLE PHASE TRANSFORMER	EACH
842	GROUND ROD	EACH
843	HAND HOLE	EACH
844	800A AUTOMATIC TRANSFER SWITCH	EACH
845	CONTACTOR AND CONTROLLER	EACH
846	REPLACE OF FOG HORN	EACH
847	NEMA 3R, STAINLESS STEEL DISCONNECT SWITCH, 2-POLE	EACH
848	NEMA 3R, STAINLESS STEEL DISCONNECT SWITCH, 3-POLE	EACH
849	MISCELLANEOUS ELECTRICAL REPAIRS AND/OR CONSTRUCTION	LUMP SUM

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
819	20	LINEAR FEET OF #6 AWG BARE GROUND CONDUCTOR AT _____. LINEAR FEET				
820	1200	LINEAR FEET OF #8 AWG GROUND CONDUCTOR AT _____. LINEAR FEET				
821	2625	LINEAR FEET OF #10 AWG GROUND CONDUCTOR AT _____. LINEAR FEET				
822	10	LINEAR FEET OF #12 AWG GROUND CONDUCTOR AT _____. LINEAR FEET				
823	13	EACH OF 36"X12"X6" NEMA 4X SS JUNCTION BOX AT _____. EACH				
824	1	EACH OF 12"X12"X6" NEMA 1 JUNCTION BOX AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
843	1	EACH OF HAND HOLE AT _____. EACH				
844	1	EACH OF 800A AUTOMATIC TRANSFER SWITCH AT _____. EACH				
845	2	EACH OF CONTACTOR AND CONTROLLER AT _____. EACH				
846	1	EACH OF REPLACE OF FOG HORN ON LMB AT _____. EACH				
847	1	EACH OF NEMA 3R, STAINLESS STEEL DISCONNECT SWITCH, 2-POLE AT _____. EACH				
848	1	EACH OF NEMA 3R, STAINLESS STEEL DISCONNECT SWITCH, 3-POLE AT _____. EACH				

Maryland Transportation Authority

MA-2081-000-006

FRANCIS SCOTT KEY BRIDGE, WILLIAM PRESTON LANE JR. MEMORIAL (CHESAPEAKE BAY) BRIDGE AND GOVERNOR HARRY W. NICE MEMORIAL BRIDGE

RENOVATION TO NAVIGATIONAL AIDS AT VARIOUS FACILITIES

BALTIMORE CITY / BALTIMORE COUNTY
ANNE ARUNDEL COUNTY / QUEEN ANNE'S COUNTY
CHARLES COUNTY

CONTRACT NO. MA-2081-000-006

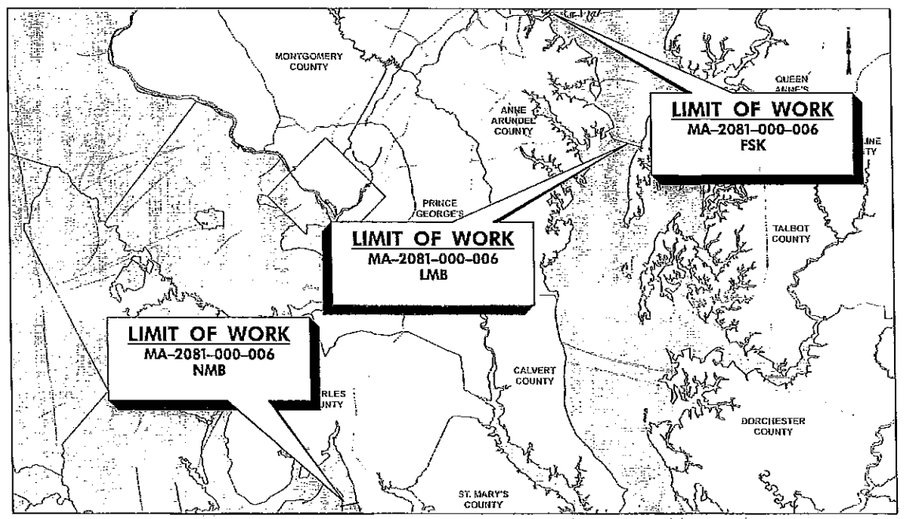
INDEX OF SHEETS

REFERENCE DRAWINGS :

The following reference drawings do not represent work to be performed under this contract. These are provided only for the convenience, assistance and information of prospective bidders. The Authority assumes no responsibility for the accuracy of these drawings :

AB1	C-687-1	NMB FOG HORN WIRING SCHEMATIC
AB2	E-1	NMB MAINTENANCE FACILITY ELECTRICAL SITE PLAN
AB3	C-3	NMB MAINTENANCE FACILITY DRAINAGE UTILITIES
AB4	C-355-B-1	NMB NAVIGATION LIGHT MOUNTINGS (1 OF 5)
AB5	C-355-B-2	NMB NAVIGATION LIGHT MOUNTINGS (2 OF 5)
AB6	C-355-B-3	NMB NAVIGATION LIGHT MOUNTINGS (3 OF 5)
AB7	C-355-B-4	NMB NAVIGATION LIGHT MOUNTINGS (4 OF 5)
AB8	C-355-B-5	NMB NAVIGATION LIGHT MOUNTINGS (5 OF 5)

PB AMERICAS, INC.
100 SOUTH CHARLES STREET
TOWER 1, 10th FLOOR
BALTIMORE, MARYLAND 21201-2727



HORIZONTAL DATUM	NAD 83/91
VERTICAL DATUM	NAVD 88

LOCATION MAP

MILEAGE XX.XX MILES

ADDENDUMS & REVISIONS			
NO.	DESCRIPTION	BY	DATE
3	MISCELANEOUS REVISIONS	D.L.	11/20/09

STANDARDS AND SPECIFICATIONS

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MARYLAND STATE HIGHWAY ADMINISTRATION'S "STANDARDS FOR HIGHWAY AND INCIDENTAL CONSTRUCTION", THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION'S "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, JULY 2008" AND ALL REVISIONS THEREOF, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES(MUTCD) AND AS SPECIFIED IN THE CONTRACT DOCUMENTS.

COMPLETENESS OF DOCUMENTS

THE MARYLAND TRANSPORTATION AUTHORITY SHALL ONLY BE RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS OBTAINED DIRECTLY FROM THE MARYLAND TRANSPORTATION AUTHORITY'S CASHIER'S OFFICE. FAILURE TO ATTACH ADDENDA MAY CAUSE THE BID TO BE IRREGULAR.

ADA COMPLIANCE

THE DESIGN OF THIS PROJECT HAS INCORPORATED FACILITIES IN COMPLIANCE WITH THE STATE AND FEDERAL LEGISLATION

RIGHT OF WAY

RIGHT OF WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THEY ARE NOT OFFICIAL. FOR OFFICIAL FEE RIGHT OF WAY AND EASEMENT INFORMATION, SEE APPROPRIATE RIGHT OF WAY PLATS.

UTILITIES

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS. NOTIFICATION TO "MISS UTILITY", 1.800.257.7777, SHALL BE GIVEN 48 HOURS (TWO FULL WORKING DAYS) IN ADVANCE OF WORKING IN THE AREA OF THE SPECIFIC AFFECTED UTILITY. THE NOTIFICATION TO "MISS UTILITY" IS REQUIRED WHENEVER ANY EXCAVATING OR SIMILAR WORK IS TO BE PERFORMED.

THE CONTRACTOR MUST NOTIFY THE SPECIAL TRADES SUPERVISOR OF THE FACILITY (FSK, NMB, LMB) AT LEAST 72 HOURS BEFORE EXCAVATING.

ENVIRONMENTAL INFORMATION

SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE STRICTLY ENFORCED DURING CONSTRUCTION. PERFORM ALL CONSTRUCTION IN ACCORDANCE WITH MARYLAND DEPARTMENT OF ENVIRONMENT REQUIRMENTS FOR CONSTRUCTION OVER BODIES OF WATER.

OWNERS / DEVELOPERS CERTIFICATION :

I / WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS.

ADDENDUM NO. 3 NOVEMBER 20, 2009

MARYLAND TRANSPORTATION AUTHORITY

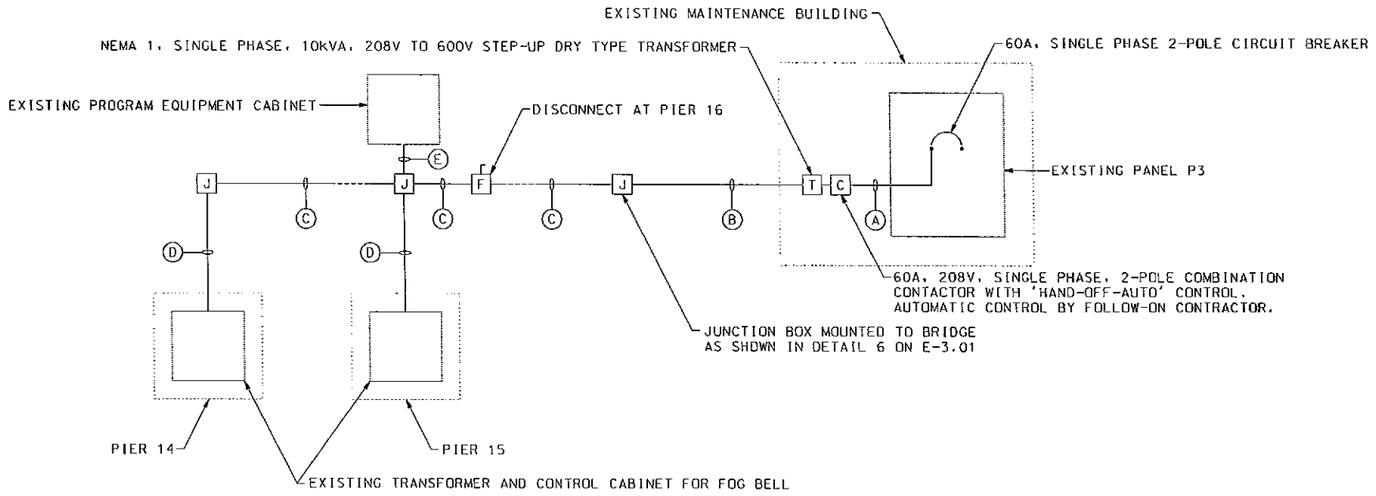
RECOMMENDED FOR APPROVAL
Douglas M. Hutcheson — 9-3-09
DIRECTOR OF ENGINEERING, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

APPROVED
Geoffrey V. Kreiling — 09/08/09
CHIEF ENGINEER, OFFICE OF ENGINEERING AND CONSTRUCTION — DATE

APPROVED
Pamela L. Freeland — 9/15/09
EXECUTIVE SECRETARY — DATE

STATE OF MARYLAND · DAVID WESLEY HOWE · No. 35489 · PROFESSIONAL ENGINEER
David Howe

BY: $USERNAME$



CABLE SCHEDULE

(A) 2-#6 AWG THWN CONDUCTORS & #6 GROUND IN CONDUIT

(B) 2-#2 AWG XHHW CONDUCTORS & #8 GROUND IN CONDUIT

(C) 2/C #2 AWG AERIAL CABLE & #6 GROUND

(D) 2-#6 AWG XHHW CONDUCTORS & #8 GROUND IN CONDUIT

(E) 6-#6 AWG XHHW CONDUCTORS & #8 GROUND IN CONDUIT

RISER DIAGRAM FOR EXISTING FOG SIGNAL

NOTES:

1. SEE GENERAL NOTES ON DRAWING E-1.00.
2. SEE ATTACHED SHEET AB1 SCHEMATIC WIRING DIAGRAM FOR EQUIPMENT CONNECTIONS.

DRAWING NOTES FOR SHEET E-2.01:

(1) PROVIDE JUNCTION BOX IN ACCORDANCE WITH DETAILS 8 AND 9 ON DRAWING E-3.02.

(2) PROVIDE 1" RGS CONDUIT MOUNTED TO EXISTING LADDER FROM JUNCTION BOX TO BRIDGE MOUNTED EQUIPMENT. SEE TYPICAL SECTION ON DRAWING E-3.02 FOR CONDUIT TRANSITION FROM JUNCTION BOX TO EXISTING LADDER.

(3) PROVIDE 1" RGS CONDUIT MOUNTED TO EXISTING WALKWAY RAILING BETWEEN NAVIGATION LIGHTS.

(4) PROVIDE 1" RGS CONDUIT MOUNTED TO BRIDGE STRUCTURE BETWEEN NAVIGATION LIGHTS AND JUNCTION BOX.

(5) PROVIDE 2" RGS CONDUIT MOUNTED TO BRIDGE STRUCTURE BETWEEN THE JUNCTION BOX AND EXISTING PROGRAM EQUIPMENT CABINET.

(6) PROVIDE 2-2" RGS CONDUITS AND JUNCTION BOX MOUNTED TO BRIDGE AS SHOWN IN DETAIL 6 ON E-3.01.

(7) PROVIDE 3 DIRECT BURIED 4" PVC CONDUITS FROM MAINTENANCE BUILDING TO HANDHOLE. CONDUITS UNDER ROADWAY SHALL BE BORED. 9

(8) MOUNT MESSENGER TO BRIDGE WITH SUPPORTS SHOWN IN DETAILS ON E-3.03, AND FASTEN ELECTRICAL CABLE WITH TIES AND SPACERS. THE MESSENGER SUPPORTS SHALL BE MOUNTED TO THE BRIDGE WITH ASSYMETRICAL SPACING WITH 20 TO 30 FEET INTERVALS. TIES AND SPACERS SHALL BE LOCATED EVERY COUPLE OF FEET OR AS RECOMMENDED BY THE MANUFACTURER.

(9) PROVIDE 4-#2 AWG XHHW CONDUCTORS AND #6 AWG GROUND FOR POWER TO THE GENERATOR ENCLOSURE DISTRIBUTION PANEL IN 2" DIRECT BURIED CONDUIT AND A SPARE 2" DIRECT BURIED CONDUIT.

(10) PROVIDE 2 STAINLESS STEEL DISCONNECTS IN ACCORDANCE WITH DETAIL 10 ON E-3.03. ONE DISCONNECT SHALL BE FOR THE NAVIGATION LIGHTING CIRCUIT AND THE OTHER DISCONNECT SHALL BE FOR THE FOG SIGNAL CIRCUIT. THE DISCONNECT SWITCH FOR THE NAVIGATION LIGHTS SHALL BE OUTFITTED WITH 15 AMP FUSES FOR EACH PHASE, AND THE DISCONNECT SWITCH FOR THE FOG HORNS SHALL BE OUTFITTED WITH 30 AMP FUSES FOR EACH PHASE.

(11) PROVIDE 1" RGS CONDUIT MOUNTED TO BRIDGE STRUCTURE BETWEEN AERIAL BEACON AND JUNCTION BOX.

(12) SEE DETAIL 3 ON E-3.00 FOR AERIAL BEACON MOUNTING PLATE.

100% SUBMITTAL

PB AMERICAS, INC.
100 SOUTH CHARLES STREET
TOWER I, 10TH FLOOR
BALTIMORE, MARYLAND 21201-2727
410-727-5050

MARYLAND TRANSPORTATION AUTHORITY
Engineering Division

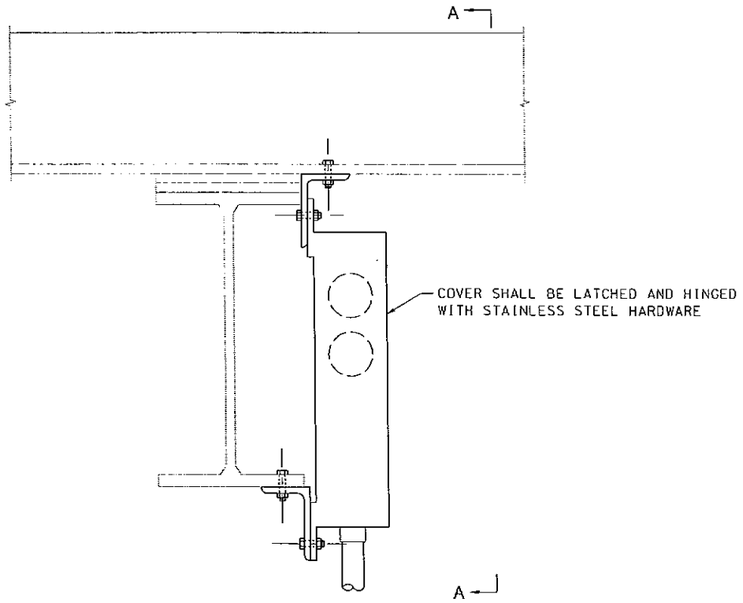
ADDENDUMS & REVISIONS			
NO.	DESCRIPTION	BY	DATE
3	MISCELANEOUS REVISIONS	D.L.	11/20/09

$DGNNAME$ Monday, November 23, 2009 AT 11:57 AM

RENOVATION TO NAVIGATIONAL AIDS AT VARIOUS FACILITIES
GOVERNOR HARRY W. NICE MEMORIAL BRIDGE
CHARLES COUNTY
ELECTRICAL RISER DIAGRAM AND PART PLAN

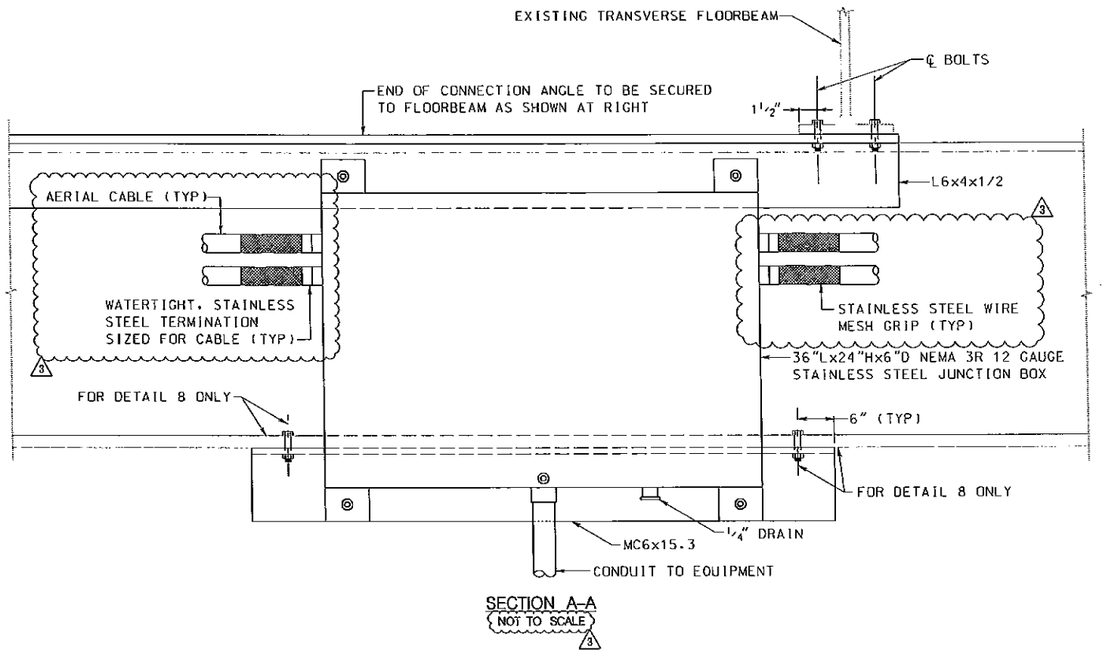
DESIGNED BY D. LEONE | DRAWN BY D.J. GROEN | CHECKED BY D. LEONE
CONST. REVIEW BY P. BULLOCK | DATE AUGUST 6, 2009 | SCALE NOT TO SCALE

CONTRACT NO. MA-2081-000-006
DRAWING NO. E-2.03
SHEET NO. 6 OF 16



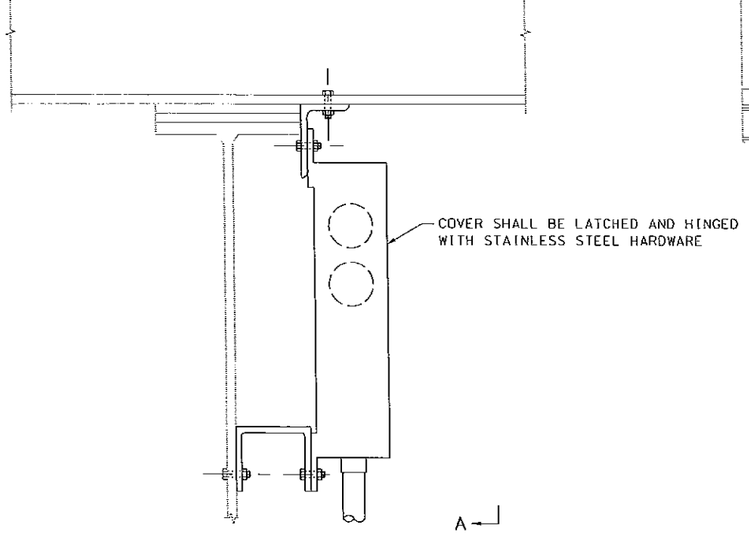
DETAIL 8 – JUNCTION BOX ATTACHMENT TO TRUSS SECTION OF THE NMB

NOT TO SCALE (3)



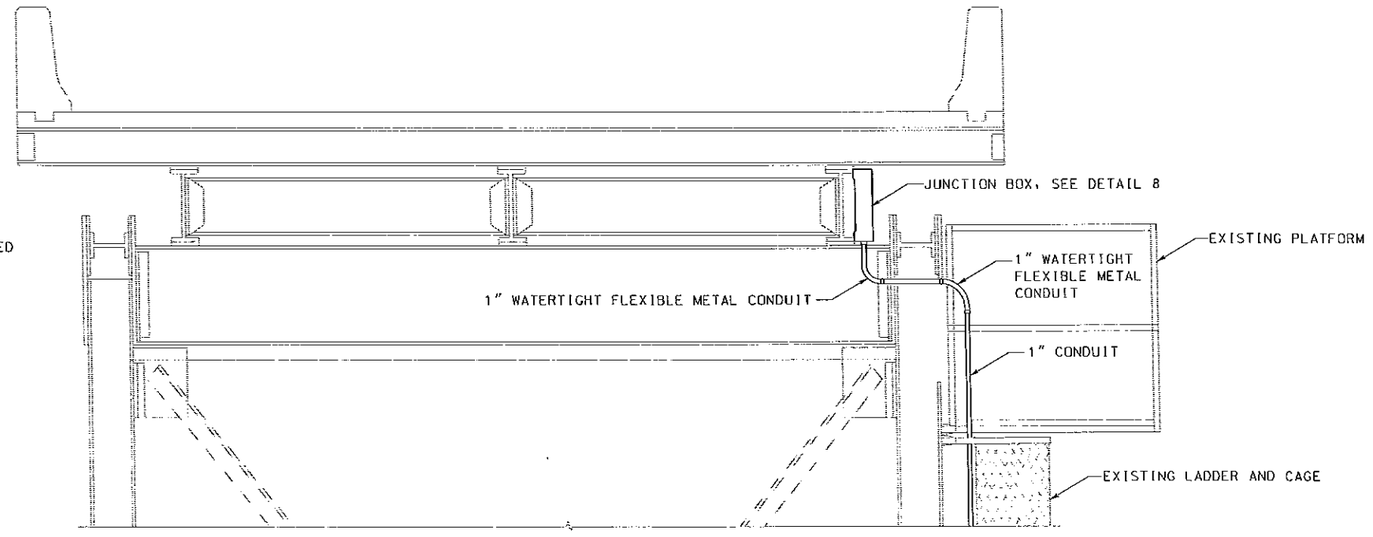
SECTION A–A

NOT TO SCALE (3)



DETAIL 9 – JUNCTION BOX ATTACHMENT TO GIRDER SECTION OF THE NMB

NOT TO SCALE (3)



NMB TYPICAL TRUSS SECTION

(LOOKING EAST)

NOT TO SCALE (3)

100% SUBMITTAL

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100 SOUTH CHARLES STREET
TOWER I, 10th FLOOR
BALTIMORE, MARYLAND 21201-2727
410-727-5050

MARYLAND TRANSPORTATION AUTHORITY

Engineering Division

ADDENDUMS & REVISIONS			
NO.	DESCRIPTION	BY	DATE
3	MISCELANEOUS REVISIONS	D.L.	11/20/09
$DGNNAME$	Tuesday, November 24, 2009 AT 10:14 AM		

RENOVATION TO NAVIGATIONAL AIDS
AT VARIOUS FACILITIES

ELECTRICAL DETAILS (SHEET 3 OF 4)

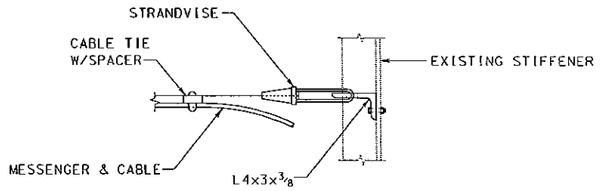
DESIGNED BY D. LEONE | DRAWN BY D.J. GROEN | CHECKED BY D. LEONE

CONST. REVIEW BY P. BULLOCK | DATE AUGUST 6, 2009 | SCALE NOT TO SCALE (3)

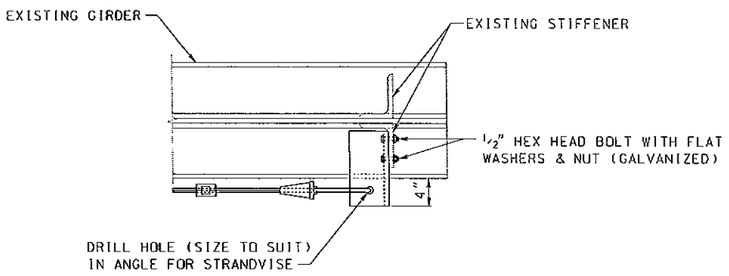
CONTRACT NO. MA-2081-000-006

DRAWING NO. E-3.02

SHEET NO. 13 OF 16

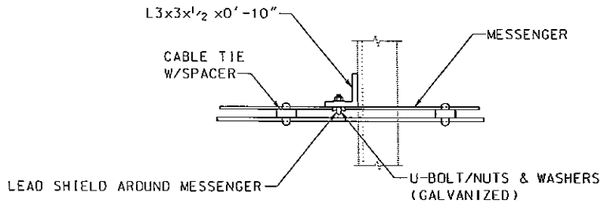


PLAN

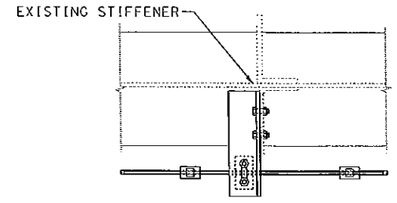


ELEVATION

TYPICAL DETAIL – TYPE 1 MESSENGER CABLE SUPPORT ON STIFFINER ON NMB
SCALE: 1 1/2" =1'- 0"

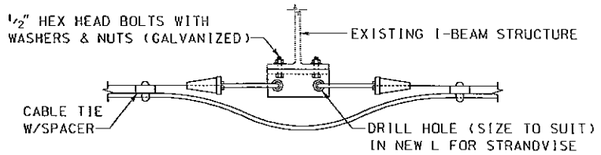


PLAN

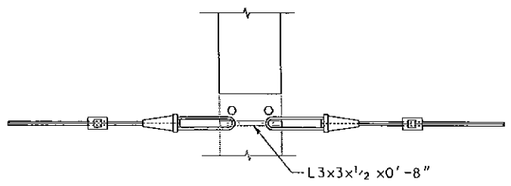


ELEVATION

TYPICAL DETAIL – TYPE 2 MESSENGER CABLE SUPPORT ON STIFFENER ON NMB
SCALE: 1 1/2" =1'- 0"

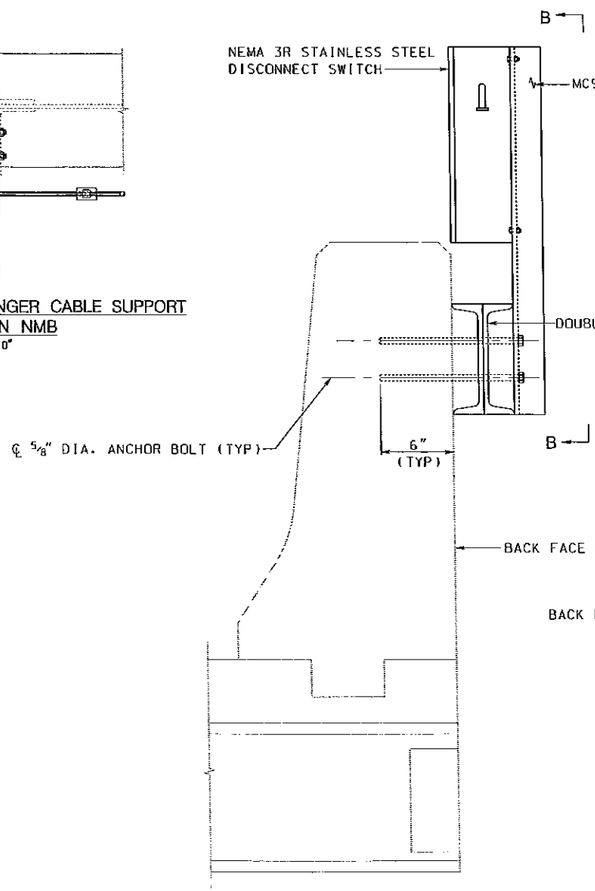


PLAN

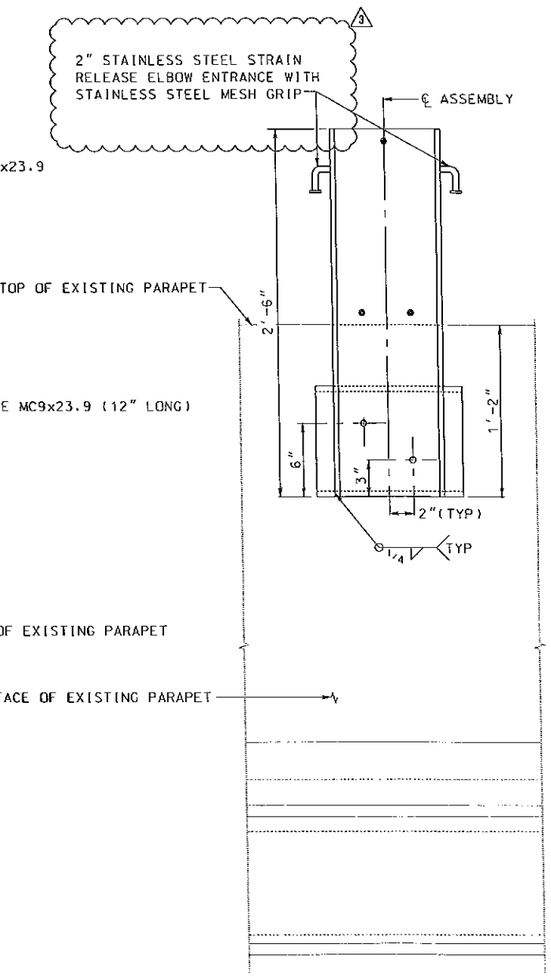


ELEVATION

TYPICAL DETAIL – I-BEAM MESSENGER CABLE SUPPORT ON NMB
SCALE: 1 1/2" =1'- 0"



ELEVATION



SECTION B-B

DETAIL 10 – DISCONNECT SWITCH ATTACHMENT ON NMB
SCALE: 1/2" =1'- 0"

100% SUBMITTAL

PB AMERICAS, INC.
100 SOUTH CHARLES STREET
TOWER I, 10TH FLOOR
BALTIMORE, MARYLAND 21201-2727
410-727-5050

MARYLAND TRANSPORTATION AUTHORITY
Engineering Division

ADDENDUMS & REVISIONS			
NO.	DESCRIPTION	BY	DATE
3	MISCELANEOUS REVISIONS	D.L.	11/20/09

$DGNNAME$ Tuesday, November 24, 2009 AT 10:39 AM

RENOVATION TO NAVIGATIONAL AIDS AT VARIOUS FACILITIES

ELECTRICAL DETAILS (SHEET 4 OF 4)

DESIGNED BY D. LEONE | DRAWN BY D.J. GROEN | CHECKED BY D. LEONE
CONST. REVIEW BY P. BULLOCK | DATE AUGUST 6, 2009 | SCALE AS SHOWN

CONTRACT NO. MA-2081-000-006
DRAWING NO. E-3.03
SHEET NO. 14 OF 16